Amendments to the Claims

This listing of claims replaces all prior versions and listings of claims in the application.

Listing of Claims:

1-24. (Cancelled)

25. (Withdrawn) An antagonist of Rho family members or Rho activity, wherein the antagonist is able to overcome growth inhibition in the central or the peripheral nervous system and thereby foster regeneration of damaged or injured axons.

26. (Withdrawn) The antagonist as in claim 25, wherein said Rho family members are selected from the group consisting of Rho, Rac, cdc42, and Rho-associated protein kinase.

27. (Withdrawn) The antagonist as in claim 25, wherein said Rho activity is with the Rho kinase or with the regulatory pathway via interaction with GTP/GDP cycle.

28. (Withdrawn) The antagonist as in claim 25, wherein the interaction with the GTP/GDP cycle is selected from the group consisting of a GTP/GDP exchange proteins (GEP), a GDP dissociation inhibitor (GDI), and GTPase activating protein (GAP), the interaction serving to regulate Rho activity.

29. (Withdrawn) A method of identifying an antagonist of a Rho family member that suppresses neuron growth, the method comprising the steps of:

(a) culturing neurons on a growth permissive substrate that incorporates a growth-inhibiting amount of the Rho family member; and

(b) exposing the cultured neurons of step (a) to a candidate Rho family member antagonist in an amount and for a period sufficient prospectively to permit growth of the neurons,

wherein a candidate Rho family member antagonist which elicits neurite outgrowth from the cultured neurons of step (a) is identified as a Rho antagonist.

30-34. (Cancelled)

35. (New) A method of stimulating regenerative growth of damaged neuronal axons in a patient with traumatic nervous system damage, the method comprising delivering directly at a traumatic lesion site in a nerve in a patient, in an amount effective to suppress inhibition of neuronal axon growth, a Rho family antagonist selected from the group consisting of:

(a) a C3 ADP-ribosyl transferase; and

(b) biologically active fragments of (a),

wherein the antagonist stimulates regenerative growth of damaged neuronal axons across and through the lesion site, and

wherein the antagonist has the ability, when scrape loaded into PC12 cells *in vitro*, to produce outgrowth of PC12 cell neurites, the PC12 cells being plated on a growth inhibitory substrate selected from the group consisting of myelin and myelin-associated glycoprotein substrate.

36. (New) The method of claim 35, wherein the nerve is a nerve in the central nervous system.

37. (New) The method of claim 35, wherein the nerve is an optic nerve.

38. (New) The method of claim 35, wherein the lesion site comprises a site of nerve crush injury.

39. (New) The method of claim 35, wherein the regenerative growth comprises a twisted path of growth through the lesion site.

40. (New) The method of claim 35, wherein the regenerative axon growth extends 250 micrometers (μm) or more past the lesion site.

41. (New) The method of claim 35, wherein the regenerative axon growth is up to 1 millimeter (mm) past the lesion site.

42. (New) The method of claim 35, wherein the nervous system damage is selected from the group consisting of a spinal cord injury, a spinal cord lesion, and a surgical nerve lesion.

43. (New) The method of claim 35, wherein the antagonist is administered with a pharmaceutical carrier or delivery system.

44. (New) The method of claim 38, wherein the delivery is from gelfoam wrapped around the damaged nerve at the crush site.